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## Mastitis Therapy

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*Iowa State College*

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# Mastitis Therapy

## Methods Used by Some Practitioners

James Dunn

**R**ECOGNITION OF THE FACT THAT BOVINE MASTITIS is the most costly single cattle disease is disconcerting to the conscientious veterinarian. Farmers and veterinarians alike evidently need a more thorough understanding of mastitis to successfully prevent it, or to treat it when it exists. So much has been said about mastitis infusions in recent years that good herd management is sometimes neglected. One veterinarian very appropriately stated that, "The big fact remains that unless the farmer practices good management we don't get very far with treatment."

Actually mastitis control must encompass several aspects to be effective. The veterinarian must: (1) treat acute cases of mastitis, (2) recognize infection in cows which show no clinical symptoms, yet are capable of transmitting mastitis to other cows, (3) treat infected cows with drugs in an attempt to eliminate the infection, (4) advise the farmer to market those cows which have an infection that cannot be successfully treated and are unprofitable because of damage from mastitis, and (5) instruct the farmer to remove predisposing factors which lead to mastitis and to encourage him to develop habits of good sanitation.

Several veterinarians who have had experience in treating mastitis in dairy cattle were asked to describe their regime of therapy. Here are some of the answers:

"The treatment of mastitis in our area is largely one of individual treatment because as yet few dairymen have asked for help on a herd basis. We handle

about six different types of infusion tubes but we have more repeat calls for a 12 cc. tube containing the following: 100,000 units penicillin, 285 mg. neomycin, 200 mg. streptomycin, with sulfathiazole and sulfamerazine.

I do feel that on large quarters I have better results with a 28 cc. tube. We suggest treating once, repeat in 24 hrs., and if further treatment is needed repeat in another 48 hrs.

We make many calls to see cows sick with systemic mastitis. I prefer to inject I. V. a sulfamerazine, methazine, thiazole, isoxazole solution and a tetracycline solution with two cc. of Purified Oxytocic Principle in it.

We then milk the quarter dry in 10-15 minutes and infuse 40 cc. Furacin (nitrofurazone) solution or an Upjohn 17900 tube (neomycin, hydrocortisone, penicillin, polymyxin and chlorobutanol). Repeat in 24 and 48 hrs. If there is a lot of swelling, we suggest hot packs for 15 min. twice a day. In some acutely sick cows we also give 12 cc. of Norden's Iomycin (an iodinated penicillin and dihydrostreptomycin). We generally leave sulfathiazole bolets as a follow up treatment for two or three days. Most of these hot cases are staphylococci or streptococci and sulfas have done as well as anything for us. Also in acutely sick cows we do use 50 mg. of predisone once a day for several days.

I do some sensitivity testing but not much. I do find it helpful and find I can render better service if the farmer will stand for the additional cost. We charge \$3.00 per quarter.

I would estimate recovery rate with one call at 80 per cent. About 10 percent

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Mr. Dunn is a senior in veterinary medicine at Iowa State College.

require more than one call. Most of those we lose end up with gangrenous mastitis."

**Dr. G. E. Brandt, Garnaville, Iowa**

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"Our treatment for mastitis varies according to the herd problem. The number of chronic cases and acute flareups have decreased since we have used mastitis bacterin on a herd basis. Initially 25 cc. of staphylococci-streptococci bacterin is given subcutaneously to each cow in the herd and repeated in one week. A single booster of 25 cc. is given at three to six month intervals thereafter.

"Many subacute and chronic cases of mastitis have responded well with the bacterin therapy, plus Fornicil, (a long-acting penicillin marketed by Abbott Laboratories) used I.M. We use the 3,000,000 units Fornicil, repeated once or twice at three day intervals.

"We rarely use udder infusions, favoring parenteral treatment instead. In some cases another type of antibiotic or sulfonamide is used instead of Fornicil."

**Dr. A. M. Orum, Carthage, Ill.**

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"When we are called to a farm to treat mastitis it is usually one cow with an acute flare up of one or more quarters. If there has been previous experience with difficult cases in the herd, we take a sterile sample for sensitivity testing and organism determination.

"Our usual treatment for acute mastitis is the combination product of four million units of penicillin and five Gm. streptomycin I. M. The owner is advised to remove as much milk as possible from the affected quarters(s) for four to five times daily using hot water baths and massage with Methylacca (Armour) every 6-8 hours. We leave udder infusion tubes or syringes to be used as soon as the inflammation and swelling has reduced. This infusion is done after the evening milking.

"Sometimes we use systemic sulfa or chloromycetin. Supportive treatment

consists of dextrose and antihistamines.

"If the animal doesn't respond we will use one of the tetracyclines, erythromycin, or neomycin I. V. 24 hours later. We will also have information by this time as to the indicated drug of choice from our sensitivity test both for systemic and infusion of the quarter.

"While on the farm we try to make the farmer realize that mastitis is a herd problem, that management is more important than our treatment and that prevention is much more effective than cure. If he is interested in a mastitis control program, we use the California Mastitis Test (CMT) to screen animals. After this we do sufficient sensitivity tests to establish the prevailing organism and drug of choice, primarily for dry treatment.

"In regard to dry treatment of cows, the products we use are the same as in acute cases. We recommend milking out the quarters 10 days after the last milking. Treatment is instilled into the quarters at this time. Ten days later the quarters are milked out again and retreated if necessary. In this manner we try to combine the mechanically milking out of the exudate and utilization of the mastitis product. If a cow with mastitis can not be cleared up in this manner, it is recommended that she be slaughtered."

**Drs. C. G. Hennager and J. L. Norton,  
Monroe, Wis.**

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"I take the temperature of every acute case of mastitis I'm asked to treat. If the cow is showing an elevated temperature she is given systemic treatment. (This consists of tetracycline and antihistamine intravenously or a triple sulfa containing sulfamethazine, sulfapyridine, and sulfathiazole.) I examine the udder manually and check the consistency of the milk. If the quarters are not extremely hard I give the animal a two cc. intravenous injection of Purified Oxytocic Principle and have the farmer milk the animal. At this point I feel an extra five minutes is well worth the time. By massaging the udder and strip-

ping you can remove material that will allow your infusion treatment to get well up into the udder. Each infected quarter is then infused with 2.5 to 5 cc. of a combination of penicillin and dihydrostreptomycin in 250 cc. of sterile, distilled water. The volume is important and this method is not generally available to the farmer. The treated quarters are not milked for 24 hours unless it is a fresh cow in full production. If the quarters are hard, bathing in hot water and epsom salts is recommended. Mastitis tubes are left with the farmer to be repeated in 24 hours if the case warrants. Those containing the cortical steroids are used if the quarters are hard. I seldom make a repeat call on an ordinary acute mastitis.

"Gangrenous mastitis, our most difficult problem, is treated 12 hours apart with triple sulfa and erythromycin I.V. Also six million units of penicillin is given I. M. The teats that are blue and lack circulation are immediately amputated at the base of the udder for drainage. Like any acute cases I feel antihistamines are of definite value. The farmer is instructed to bathe the udder in hot water and epsom salts for a minimum of two hours a day. To emphasize my point I try to leave the impression that this might mean the difference in the man having a live cow and not having one. I've tried many other treatments and I think there is much to be desired from all.

"Mastitis in dry cows is usually treated by the farmer. I instruct him to milk the quarter out thoroughly, infuse the quarter with a commercial tube, repeating this twice at 3 day intervals. In some cases I use the large volume of sterile, distilled water with antibiotics in it."

**Dr. R. Pawlisch, Brodhead, Wis.**

## BOOK REVIEW

### *Veterinary Ophthalmology*

The second edition of this book, printed in less than two years after the first, contains more illustrations and some of the pictures have been redrawn. A few more photographic plates are included.

The book is divided into two parts. The first part is on anatomy and physiology of the eye and the second part is on clinical ophthalmology. The section on anatomy and physiology is very good with a lot of emphasis placed upon comparative veterinary anatomy. The chapters on animal vision and the optical system contains much interesting and helpful information. The second part on clinical ophthalmology would be more useful to the average veterinary practitioner. For example, a method of restraint used when examining the eye of a cow is illustrated on page 142. This section also gives attention to congenital abnormalities of the eye.

The chapter on therapeutics is primarily based upon information from *The British Veterinary Codex* and *British Pharmacopoeia*. The average American veterinary practitioner would have to supplement this chapter with other available information.

This book would be of some benefit to those veterinarians engaged in general practice and definitely should be available to the teacher and student of veterinary medicine.

*Veterinary Ophthalmology*. By R. H. Smythe. 379 pages. Williams and Wilkins Co., Mount Royal and Guilford Aves., Baltimore 2, Md. Exclusive U. S. agents. 1958. Price \$8.50.

**Chris Oelberg '59**

(Diseases and Care of Parakeets, continued from page 74)

#### MANAGEMENT PRECAUTIONS

1. Do not use phenol or phenol derivatives around these birds.
2. All new cages should be thoroughly rubbed with a steel brush to remove all loose metallic particles.

3. If you use a dusting powder, use only a powder with a pyrethrum base.
4. Do not use DDT preparations.
5. Thoroughly remove all insecticides from green food.
6. Do not leave any lindane where birds can come in contact with it.

End